

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended) Method of manufacture of a piston for an internal combustion engine, the said piston being formed from a steel metal part cast in one piece, wherein heating of a billet is carried out so as to bring it to an intermediate temperature between its solidus temperature and its liquidus temperature, and that shaping thereof by thixoforging is carried out.

Claims 2-16 (Canceled)

Claim 17 (Currently Amended) The method of Claim 1, wherein the steel piston is produced from carbon steel.

Claim 18 (Currently Amended) The method of Claim 17, wherein the steel piston has a composition, in percentages by weight, of:

- $0.35\% \leq C \leq 1.2\%$
- $0.10\% \leq Mn \leq 2.0\%$
- $0.10\% \leq Si \leq 1.0\%$
- traces $\leq Cr \leq 4.5\%$
- traces $\leq Mo \leq 2.0\%$
- traces $\leq Ni \leq 4.5\%$
- traces $\leq V \leq 0.5\%$
- traces $\leq Cu \leq 3.5\%$
- traces $\leq Al \leq 0.060\%$
- traces $\leq Ca \leq 0.050\%$
- traces $\leq B \leq 100$ ppm
- traces $\leq Ti \leq 0.050\%$
- traces $\leq Nb \leq 0.050\%$

the other elements being iron and conventional impurities resulting from the manufacture.

Claim 19 (Currently Amended) The method of Claim 18, wherein the steel piston includes up to 0.180% of S and one at least of the elements chosen from amongst up to 0.080% of Bi, up to 0.020% of Te, up to 0.040% of Se, up to 0.070% of Pb.

Claim 20 (Currently Amended) The method of Claim 1, wherein the steel piston is produced from hot-tooling steel.

Claim 21 (Currently Amended) The method of Claim 1, wherein the steel piston is produced from high-speed steel.

Claim 22 (Currently Amended) The method of Claim 1, wherein the steel piston is produced from stainless steel.

Claims 23-25 (Canceled)

Claim 26 (Currently Amended) A method of making a piston for an internal combustion engine comprising:

casting and cooling a steel material;
heating the steel metal material so as to bring the steel material to an intermediate temperature between its solidus temperature and its liquidus temperature; and

at least one of said casting, said cooling and said heating comprising obtaining a globular primary structure of the steel material;

shaping the steel metal material by thixoforging the steel metal material at the intermediate temperature so as to form the piston; and

the globular primary structure of the steel material is obtained without an operation of globulization separate from said casting, cooling and heating.

Claim 27 (Canceled)